<u>IN THE CLAIMS</u>

This listing of claims will replace all prior versions and listings of claims in the Application:

<u>LISTING OF CLAIMS:</u>

1. (Previously Presented) A data storage device, the device comprising:

   more than two disk drives having platter sizes less than 3.5 inches in diameter; and

   a controller that accesses the disk drives in response to received I/O requests, where said controller simultaneously performs at least a part of at least two write operations onto said more than two disk drives in response to at least two different write requests, wherein the controller is configured to implement a RAID scheme, and wherein the RAID scheme is independent of a hierarchically higher RAID controller that sends the data storage device RAID data.

2. (Previously Presented) The data storage device of claim 1, further comprising a device interface to receive I/O requests, wherein the device interface comprises an interface configured to conform to a protocol.

3. (Previously Presented) The data storage device of claim 2, wherein the protocol comprises at least one of the following: SCSI (Small Computer System Interface), Fibre Channel, and INFINIBAND.

4. (Original) The data storage device of claim 1, wherein the platter sizes comprise platters of at least one of the following sizes: 2.5 inches, 1.8 inches, and 1 inch.

5. (Previously Presented) The data storage device of claim 4, wherein at least one of the disk drives comprises an IDE (Integrated Disk Electronics) drive.

6.   (Original) The data storage device of claim 1, wherein the more than two disk drives having platter sizes less than 3.5 inches in diameter comprise more than two disk having platter sizes 2.5 inches or less in diameter.

7.   (Original) The data storage device of claim 1, wherein the more than two disk drives having platter sizes less than 3.5 inches in diameter comprise more than two disk drives having platter sizes one inch in diameter or less.

8.   (Original) The data storage device of claim 1, further comprising a housing.

9.   (Original) The data storage device of claim 8, wherein the housing has one of the following form factors: standard, half-height, and low-profile.

Claims 10-11. (Canceled)

12.   (Previously Presented) The data storage device of claim 1, wherein the RAID data comprises at least one of: a stripe, an error detection code, and an error correction code.

13.   (Previously Presented) The data storage device of claim 1, wherein said data storage device is configured to perform cache operations, said data storage device further comprising a cache manager.

14.   (Original) The data storage device of claim 13, wherein the cache manager comprises a manager configured to perform at least one of the following: translate an address of a different storage device to a cache address; cache data included in a write request; load data from the different storage device; and remove cache data.

15.   (Previously Presented) The data storage device of claim 1, further comprising a controller card that includes the controller and connections available to couple with more than one storage card that provides access to a least two of the disk drives.

16.   (Previously Presented) The data storage device of claim 15, wherein the storage card comprises a card having at least one parallel interface to a collection of the disk drives.

17.   (Previously Presented) The data storage device of claim 15, wherein the drives comprise IDE (Integrated Disk Electronics) disk drives.

18.   (Original) The data storage device of claim 15, wherein the connection between the controller and the storage card comprises a serial connection.

19.   (Previously Presented) The data storage device of claim 15, wherein the controller comprises a bank interface that routes data requests to the appropriate bank of disk drives.

20.   (Previously Presented) A data storage system, the system comprising:

at least one first data storage device having a platter size of at lest 3.5 inches in diameter;

at least one second data storage device comprising:

a device interface for receiving input/output (I/O) requests;

a first controller configured to receive I/O requests from the interface; and

more than two disk drives coupled to the controller, the disk drives having platter sizes less than 3.5 inches in diameter, where said first controller simultaneously performs at least a part of at least two write operations onto said more than two disk drives in response to at least two different write requests, wherein the controller is configured to implement a RAID scheme, and wherein the RAID scheme is independent of a hierarchically higher RAID controller that sends the data storage device RAID data; and

a second controller, configured as the hierarchically higher RAID controller, that coordinates data access to the at least one first data storage device and the at least one second data storage device.

Claim 21. (Canceled)

22.   (Original) The data storage system of claim 20, wherein the platter sizes less than 3.5 inches in diameter comprise platters of at least one of the following sizes: 2.5 inches, 1.8 inches, and 1 inch.

23.   (Previously Presented) The data storage system of claim 20, wherein the drives having platter sizes less than 3.5 inches comprise IDE (Integrated Disk Electronics) disk drives.

24.   (Previously Presented) A method of servicing input/output (I/O) data access requests at a data storage device, the method comprising:

receiving I/O requests at a device interface of the data storage device, wherein receiving an I/O request comprises receiving an I/O request from a hierarchically higher RAID controller;

accessing more than two disk drives having platter sizes less than 3.5 inches in diameter in response to received I/O requests, wherein accessing the more than two disks comprises accessing the more than two disks in accordance with a RAID scheme; and

simultaneously performing at least a part of at least two write operations onto the more than two disk drives in response to at least two different write requests.

25.   (Previously Presented) The method of claim 24, further comprising:
receiving I/O requests at a device interface of the data storage device, wherein the device interface comprises an interface configured to conform to a protocol.

26.   (Previously Presented) The method of claim 25, wherein the protocol comprises at least one of the following: SCSI (Small Computer System Interface), fibre channel, and INFINIBAND.

27.   (Original) The method of claim 24, wherein the platter sizes comprise platters of at least one of the following sizes: 2.5 inches, 1.8 inches, and 1 inch.

Claims 28-29. (Canceled)

30.   (Previously Presented) A data storage system, comprising:

a set of storage devices, each storage device being configured to store and retrieve data in response to data access commands from a set of external host computers;

first-tier RAID control circuitry coupled to the set of storage devices, the first-tier RAID control circuitry being configured to apply a first RAID scheme on the set of storage devices in a manner that treats the set of storage devices as a first array under application of the first RAID scheme; and

second-tier RAID control circuitry coupled to the array of storage devices, the second-tier RAID control circuitry being configured to apply a second RAID scheme on a set of storage sub-devices of a storage device of the set of storage devices in a manner that treats the set of storage sub-devices of that storage device as a second array under application of the second RAID scheme.

31.   (Previously Presented) The data storage system of claim 30 wherein the first-tier RAID control circuitry and the second-tier RAID control circuitry define a RAID hierarchy.

32.   (Previously Presented) The data storage device of claim 1 wherein:

the controller that accesses the disk drives in response to received I/O requests comprises a first controller that accesses the disk drives in response to received I/O requests, the first controller configured to implement a first RAID scheme; and

the data storage device comprises a second controller in communication with the first controller, the second controller configured to implement a second RAID scheme independent from the first RAID scheme implemented by the first controller, the second RAID controller configured to send the first controller RAID data when implementing the second RAID scheme.

33.   (Previously Presented) The data storage device of claim 1 wherein the controller comprises a cache manager configured to perform an operation selected from the group consisting essentially of: translate an address of a data storage device having a platter size of at lest 3.5 inches in diameter to an address associated with the more than two disk drives, cache data associated with a received I/O request, load data from the data storage device having the platter size of at lest 3.5 inches in diameter, and remove cached data from cache storage associated with the controller

34.   (Previously Presented)   The data storage system of claim 20 wherein the second controller is configured to implement a second RAID scheme independent from the RAID scheme implemented by the first controller, the second RAID controller configured to send the first controller RAID data when implementing the second RAID scheme.

35.   (New)   The data storage system of claim 30 wherein each storage device of the set of storage devices has at least one magnetic disk drive; wherein the storage device having the set of storage sub-devices includes, as the storage sub-devices, multiple small form factor magnetic disk drives; wherein the first-tier RAID control circuitry is adapted to treat each storage device of the set of storage devices as exactly one RAID device when applying the first RAID scheme to store particular data in the set of storage devices; and wherein the second-tier RAID control circuitry is adapted to treat each storage sub-device of the set of storage sub-devices as exactly one RAID device when applying the second RAID scheme to store a portion of the particular data in the set of storage sub-devices in order to store the particular data in a RAID-within-RAID manner.